UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/629,285	07/29/2003	Dawn White	DWH-11702/29	5710

25006 7590 09/18/2006

GIFFORD, KRASS, GROH, SPRINKLE & CITKOWSKI, P.C
PO BOX 7021
TROY, MI 48007-7021

EXAMINER	
SELLS, JAMES D	

ART UNIT	PAPER NUMBER
1734	

DATE MAILED: 09/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/629,285	WHITE ET AL.	
	Examiner	Art Unit	
	James Sells	1734	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 July 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-27* is/are pending in the application.

4a) Of the above claim(s) *12-22* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11 and 23-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-8 and 23-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reddy et al (US Patent 5,792,677) in view of Dorfman et al (US Patent 6,103,392).

Reddy discloses a method of making an electronic device. As shown in the figures, this method involves providing a plurality of insulating substrate layers 12 and a plurality of metal layers 14 (see col. 4, lines 27-47). Reddy further discloses that the materials may comprise silver, aluminum copper or the like (see col. 4, lines 48-57). It is the examiner's position that it is well known in the art that metals inherently have a relatively high degree of thermal conductivity.

However, Reddy does not disclose the consolidation process as claimed by the applicant. Regarding this difference, the applicant is directed to the reference of Dorfman.

Dorfman discloses a method of making a composite. This method involves solid state sintering or consolidating metal materials into desired shapes (see col. 1, lines 46-51 and col. 3, lines 4-26).

It would have been obvious to one having ordinary skill in the art to employ a solid state consolidation process, as taught by Dorfman, in the method of Reddy in

order to fabricate the metal layers with desired shapes. In addition, without the disclosure of unexpected results, it is the examiner's position that the specific materials (i.e. air, molybdenum, mesh, iron-nickel-cobalt allow, wicking material, etc.) and components (i.e. sensor, fan, heat pump, etc.) claimed by the applicant are within the purview of one having ordinary skill in the art and would have been obvious to employ in the method of Reddy as a matter of choice based on the desired physical properties of the articles being manufactured.

3. Claims 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reddy et al in view of Dorfman et al as described above in paragraph 2 in further view of Doumanidis et al (US Patent 6,450,393).

Doumanidis discloses a method and apparatus for producing a three dimensional part. As shown in the figures, cutting device 40 cuts individual planar sheets 32 from materials supplied from feed system 66. These planar sheets are positioned on apparatus 30 comprising table 36, base 50, Cartesian table 52 and anvil 54. Ultrasonic welder 38 then welds the individual sheets 32 together to form the three dimensional part in the manner claimed by the applicant. See col. 5, line 14 through col. 6, line 43.

It would have been obvious to one having ordinary skill in the art to employ an ultrasonic consolidation process, as taught by Doumanidis, in the method of Reddy in view of Dorfman as described above in order to facilitate bonding of the materials. In addition, without the disclosure of unexpected results, it is the examiner's position that the specific consolidation technique (i.e. electrical resistance or friction vs. ultrasonic)

are well known and conventional in the art and would have been obvious to employ in the above described method since they are functional equivalent alternate expedients in the art.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-11 and 23-27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1, line 4, "high degree" is indefinite since it is unclear exactly what level of thermal conductivity applicant is claiming.

Claim 2, line 2, " high coefficient" is indefinite since it is unclear exactly what level of thermal expansion applicant is claiming.

Response to Arguments

6. Applicant's arguments filed July 6, 2006 have been fully considered but they are not persuasive.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the

references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, as stated above, it would have been obvious to one having ordinary skill in the art to employ a solid state consolidation process, as taught by Dorfman, in the method of Reddy in order to fabricate the metal layers with desired shapes.

Regarding the rejections of claims 1-8 and 23-27, applicant argues that the substance and limitations of multiple claims "are within the purview of one having ordinary skill in the art... as a matter of design choice..." is not persuasive. The examiner does not agree. First it is noted that these rejections only apply to dependent claims 3-8 and 23-27, not to independent claim 1. Second, if applicant provides some evidence or convincing line of reasoning why the specific materials or components are unobvious or generate unexpected results, then the examiner will withdraw the appropriate rejection. Until then, the examiner believes the rejection of claims 3-8 and 23-27 is appropriate and applicant's argument is believed to be incorrect in this instance.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a

reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Telephone/Fax

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Sells whose telephone number is (571) 272-1237. The examiner can normally be reached on Monday-Friday between 9:30 AM and 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Fiorilla can be reached at (571) 272-1187. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

JAMES SELLS
PRIMARY EXAMINER
TECH. CENTER 1700